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Sent: 6/22/2021 2:24:54 PM
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Subject: 'Falling apart.' World's largest CCS plan hits snag

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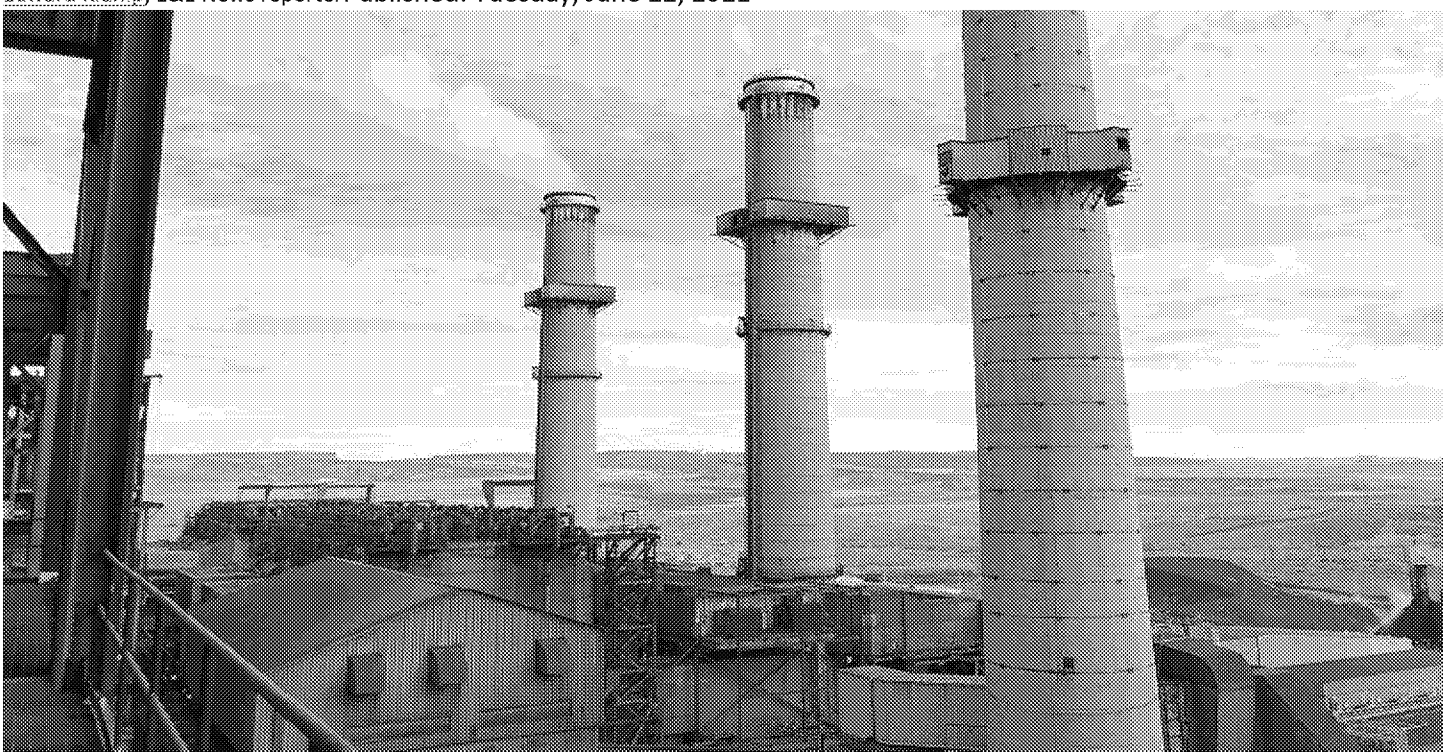
CARBON CAPTURE

'Falling apart.' World's largest CCS plan hits snag

Edward Klump, E&E News reporterPublished: Tuesday, June 22, 2021



The future of the coal-fired San Juan Generating Station in New Mexico remains uncertain as a plan to install carbon-capture technology has been pushed back. Benjamin Storrow/E&E News

The company with a $1.5 billion plan to develop the world's largest carbon-capture retrofit at a coal plant says the New Mexico project is about 18 months behind its previous schedule.

But Enchant Energy Corp. insists the concept remains viable, even as critics denounce it as a waste of money that will delay the state's energy transition away from fossil fuels.

Enchant hasn't been able to reach a deal to start work at the San Juan Generating Station site this year, so construction on a carbon-capture retrofit is unlikely to begin before July 2022. That means an initial unit to capture carbon wouldn't be operational until late 2024 at the earliest — not sometime in 2023 as once envisioned. Carbon capture would be fully operational by the second quarter of 2025 under the current outlook.

"The previous schedule was a highly optimistic schedule, and it was based on being able to get an early access agreement with the existing owners," Enchant CEO Cindy Crane told E&E News this month.

The updated timeline arrives as carbon capture, utilization and storage, known as CCS, or CCUS, sees renewed attention given the Biden administration's goal of decarbonizing the U.S. power sector by 2035. Still, it remains to be seen if extending the life

of coal-fueled generation can compete with potential plans to capture carbon from cleaner generating sources, such as natural gas.

Enchant's delay also is fostering skepticism about the company's ability to execute the overhaul, which is tied to two remaining coal-fueled units at the San Juan station in northwestern New Mexico. Combined, they total about 847 megawatts. Enchant is working with the city of Farmington, N.M., to extend the life of the coal plant. About 29% of San Juan's output could be used to power the carbon capture facility.

Public Service Co. of New Mexico, or PNM, plans to take the last two coal units offline by the end of June 2022. PNM owns a majority of the current capacity and has said retiring the coal plant could bring environmental and economic benefits for customers. For PNM, power from San Juan is expected to be replaced by cleaner resources such as renewables and batteries, though the utility is exploring additional power because of a delayed solar project and economic development needs.

Enchant, however, is hoping to get control of the units and keep them running past June 2022. But parties have not hammered out details of a transfer agreement to Farmington, which has been negotiating with PNM and others. PNM says Farmington's right is to negotiate for a potential transfer — and that the plant would close without an agreement.

PNM, whose parent is in the process of being acquired by Avangrid Inc., hasn't indicated any plans to buy power from Enchant, but it has talked with the company about a potential transfer of the plant to Farmington, which already owns a small stake. The city would then transfer most of the plant ownership to Enchant.

Raymond Sandoval, a PNM spokesperson, said in a statement that "PNM has continually participated in good faith negotiations with Farmington and Enchant" in recent years but has "seen little progress in reaching" a transfer agreement that satisfies the existing owners' agreement.

"While PNM would desire the economic support for the local community we have been steadfast in our assertion that full transparency of the viability of this project is important for the folks in San Juan County including our current San Juan plant employees," Sandoval said.

'Not economic'

The Enchant project at San Juan, if built, would follow in the footsteps of Petra Nova, which is the largest CCUS retrofit at a coal-fueled generating unit. But that Texas carbon capture facility was placed into a mothball status after oil prices fell last year, according to NRG Energy Inc.

"Oil price is only one factor among several others such as production ... that impact the decision to return the carbon capture system to service," Chris Rimel, an NRG spokesman, said via email recently. "As it ... is not economic to operate the carbon capture facility for short periods, the carbon capture facility remains in mothball status, prepared to re-start should economics improve."

The Enchant project aims to remove over 90% of the CO2 from the power plant flue gas at San Juan. The company aims to run the plant without carbon capture for more than two years after taking majority control in mid-2022.

Critics say Enchant's plan is expensive and not the best approach to tackle climate change. PNM has cast doubt on Enchant's ability to handle the costs and liabilities of running San Juan with carbon capture and also questioned "the scalability of the technology and the water usage of it" and pointed to a need for Enchant to secure transmission.

"I think the whole thing's falling apart," Mike Eisenfeld, energy and climate program manager at the San Juan Citizens Alliance, told E&E News.

He suggested the project's cost could be three to four times the $1.5 billion price tag discussed by Enchant.

The San Juan Citizens Alliance was part of a coalition of groups that wrote the Department of Energy to ask for an environmental impact statement process on the project in connection with federal grants and loans. Eisenfeld said carbon capture shouldn't be applied to an old coal plant, and he takes issue with the idea of keeping San Juan running for years before its carbon is captured. He said the city of Farmington was deceived.

But Farmington struck a hopeful tone in a statement to E&E News last week.

"The City of Farmington remains optimistic about carbon capture at San Juan Generating Station and looks forward to the project's success!" it said.

Peter Mandelstam, Enchant's chief operating officer, said Enchant's co-founders — Jason Selch and Larry Heller — continue to fund the company.

Challenges with raising development capital included uncertainty around the November election and COVID-19, according to Mandelstam. But he said the company has been negotiating with various investors.

The design now includes two carbon capture units instead of four. Mandelstam said he didn't believe the carbon capture price tag, which includes deferred power plant maintenance as well as possible CO2 pipelines and injection wells, would rise significantly above $1.5 billion.

Mandelstam said the timing of the carbon capture project changed without early site access at San Juan. Scheduled full operation of the CCUS project shifted from the fourth quarter of 2023 to the second quarter of 2025, he said.

"It's true that there are challenges getting funding, but one of the milestones that the investors were looking for was site early access," he said.

Mandelstam said Enchant's project could preserve about 1,500 direct and indirect jobs combined, plus construction jobs. Transmission remains a point of dispute, but Mandelstam said there isn't an issue around water.

A spokesperson for DOE's Office of Fossil Energy and Carbon Management said "DOE is committed to supporting the decarbonization of the electricity sector by 2035 and net zero carbon emissions by 2050."

"We have supported and will continue to support technologies for coal power plants and surrounding communities to eliminate carbon dioxide emissions in addition to minimizing the environmental impacts associated with the recovery and combustion of fossil fuels," the spokesperson said in a statement.

DOE to the rescue?

For Enchant's project, Mandelstam suggested that an environmental assessment is the appropriate level of review instead of a full-blown federal environmental impact statement.

"The decision for the level of environmental review is not with the environmental organizations, it's not with Enchant Energy, it's solely with the federal government," he said.

There's also a question of New Mexico's Energy Transition Act, which includes a zero-carbon resources standard for investor-owned electric utilities by 2045. PNM plans to meet that requirement several years early. New Mexico also has an earlier emissions benchmark that could affect San Juan's ability to run without carbon capture starting in 2023.

Crane, Enchant's CEO, said rules around compliance with the law would be clarified to look at how to run the plant in order to comply. She said the worst-case scenario is idling the power plant, and the company would seek a waiver if needed to keep it running.

But she said not operating the plant for a period wouldn't change the economic viability of the carbon capture project.

Enchant is looking at possible DOE and Department of Agriculture debt financing that could total about $1 billion. The reason, according to the company, is that it would carry lower capital costs. Funding for Enchant's project may include a range of components, Crane said, such as construction financing and debt and tax equity financing.

But who is going to buy the power and captured carbon dioxide?

Crane said Enchant has secured a couple of potential buyers for electricity and is in negotiations with others. There are discussions on possible CO2 buyers as well, but the company isn't disclosing names of those interested at this point.

With carbon dioxide, Crane said Enchant has a two-pronged strategy — direct geologic injection as well as using a pipeline that could enable enhanced oil recovery in the Permian Basin. She said the federal 45Q tax credit for carbon capture and storage remains an important piece that can enable the technology to be economic.

Enchant's project has benefited from millions of dollars of federal money that has gone to help examine engineering and design as well as geologic research. Crane said the company is looking at a 12-year tax credit window, meaning San Juan could run for that period with carbon capture. It may also run before or after that period.

Crane said there's still significant momentum in Washington around advancing carbon capture.

"We're in it for climate mitigation," she said.

But Camilla Feibelman, director of the Rio Grande Chapter of the Sierra Club, said using coal at a power plant is expensive and polluting.

Feibelman said Enchant's carbon capture plan is "offering false hope to a community that, if it gets ahead of the game on renewables, can really be a major hub for batteries, for transmission and for renewables."

Mandelstam said Enchant believes in the project and is spending millions of dollars of private capital. He rejected any suggestion that it's a boondoggle.

"And whatever mix of public and private capital — debt and equity capital — at the end of the day we have to pay it all back," he said. "And we will do that with the revenues associated with the project."